Drought Information Statement

WFO Little Rock, AR

Issued: August 19, 2011

Synopsis

Drought conditions worsened in southwest Arkansas and improved elsewhere.

Drought Monitor

The U.S. Drought Monitor is available online at **http://www.drought.unl.edu/dm**. It is a collaborative effort between several government and academic partners. The U.S. Drought Monitor is issued each Thursday morning and takes into account hydro-meteorological data through 7 AM Tuesday. There are four levels of drought: D1 (moderate), D2 (severe), D3 (extreme), and D4 (exceptional).

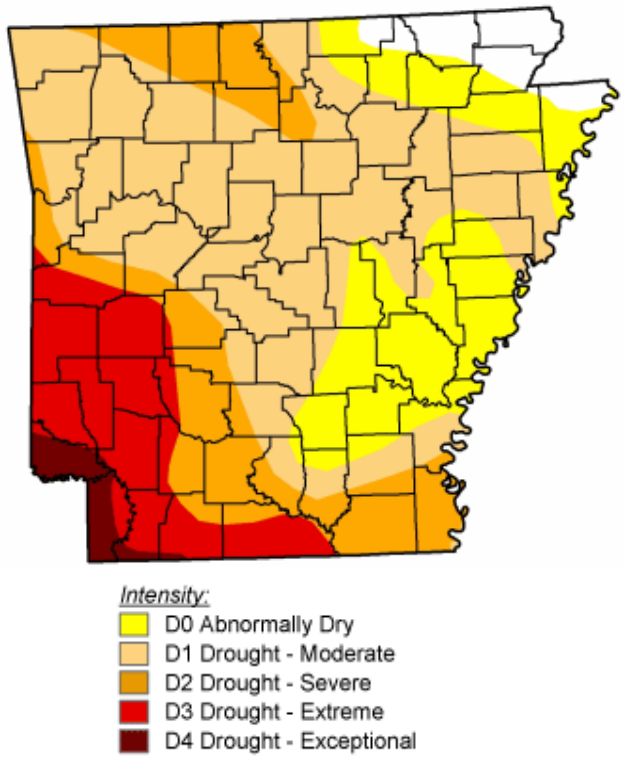

Figure 1 – U.S. Drought Monitor for August 16, 2011.

The latest U.S. Drought Monitor (Figure 1), issued August 16, 2011, indicated D2 to D4 conditions mainly in southern and western Arkansas. This included areas south and west of Fort Smith (Sebastian County), Hot Springs (Garland County), Hampton (Calhoun County) and McGehee (Desha County). Widespread D2 conditions from much of northwest into central Arkansas were reduced to D0/D1 in most areas due to recent heavy rain.

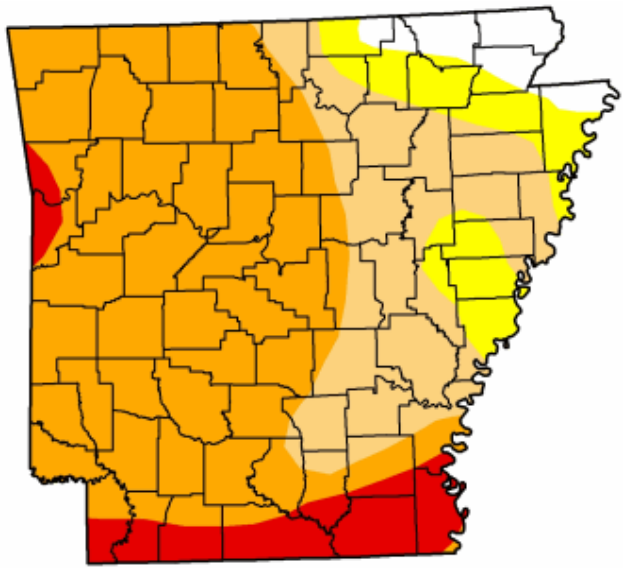

Figure 2 – Same as Figure 1, but issued August 2, 2011.

Climate Data and Analysis

In 2010, southern and eastern sections of the state experienced well below normal rainfall (Figure 3). Rainfall deficits were more than 17 inches in some areas. In the far southeast, rainfall was as little as 25 to 50 percent of normal.

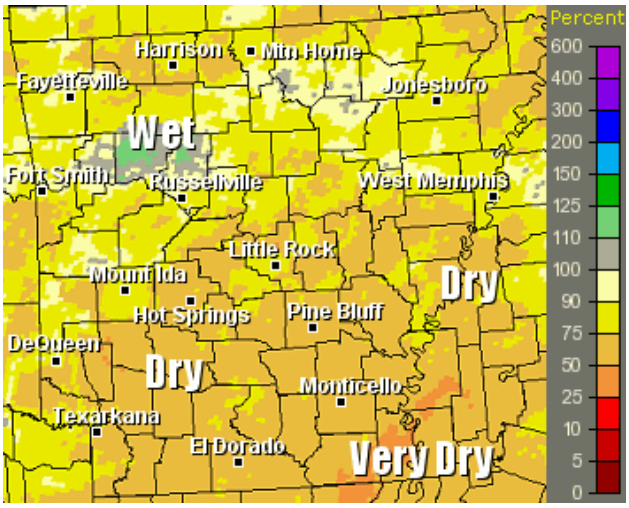

Figure 3 – Percent of normal rainfall in 2010.

Precipitation in 2010

Site	Amount	+/-	% of Normal
Fayetteville (NW AR)	*42.15*	*-3.87*	*92%*
Harrison (NC AR)	*46.12*	*+0.92*	*102%*
Jonesboro (NE AR)	*32.22*	*-13.96*	*70%*
Fort Smith (WC AR)	*35.27*	*-8.60*	*80%*
Little Rock (C AR)	*36.52*	*-14.41*	*72%*
W Memphis (EC AR)	*51.83*	*-0.97*	*98%*
Texarkana (SW AR)	*29.53*	*-17.85*	*62%*
El Dorado (SC AR)	*34.23*	*-19.88*	*63%*
Pine Bluff (SE AR)	*31.97*	*-20.51*	*61%*

Rainfall through August 15, 2011 suggested the situation was not as dire as a year ago. Most areas had above normal totals, with negative numbers confined to the south.

Precipitation in 2011 (thru August 15th)

Site	Amount	+/-	% of Normal
Fayetteville (NW AR)	*38.14*	*+10.04*	*136%*
Harrison (NC AR)	*36.04*	*+8.83*	*132%*
Jonesboro (NE AR)	*32.65*	*+2.85*	*110%*
Fort Smith (WC AR)	*29.92*	*+1.84*	*107%*
Little Rock (C AR)	*33.00*	*+2.88*	*110%*
W Memphis (EC AR)	*34.87*	*+1.26*	*104%*
Texarkana (SW AR)	*18.53*	*-11.31*	*62%*
El Dorado (SC AR)	*20.50*	*-12.50*	*62%*
Pine Bluff (SE AR)	*28.82*	*-3.24*	*90%*

Totals in June and July tell a different story. There was little in the way of rain, and it was very hot. The summer was on pace to be one of the hottest and driest on record.

Temperatures/Precipitation (June/July, 2011)

Site	Avg Temp/ Rank (Hottest)	Rain/Rank (Wettest)
Fayetteville (NW AR)	*81.6°(1)*	*1.60"(2)*
Harrison (NC AR)	*81.5°(1)*	*1.84"(2)*
Jonesboro (NE AR)	*84.2°(2)*	*3.47"(NA)*
Fort Smith (WC AR)	*88.2°(1)*	*0.66"(1)*
Little Rock (C AR)	*85.6°(1)*	*1.41"(3)*
W Memphis (EC AR)	*83.4°(1)*	*3.84"(8)*
Texarkana (SW AR)	*86.2°(1)*	*1.55"(4)*
El Dorado (SC AR)	*84.5°(3)*	*2.69"(8)*
Pine Bluff (SE AR)	*84.8°(1)*	*2.32"(3)*

The culprit responsible for the heat and lack of rain was a ridge of high pressure that meandered across the southern United States. The high kept hot/dry conditions going into early August, but then shifted to the west (Figure 4).

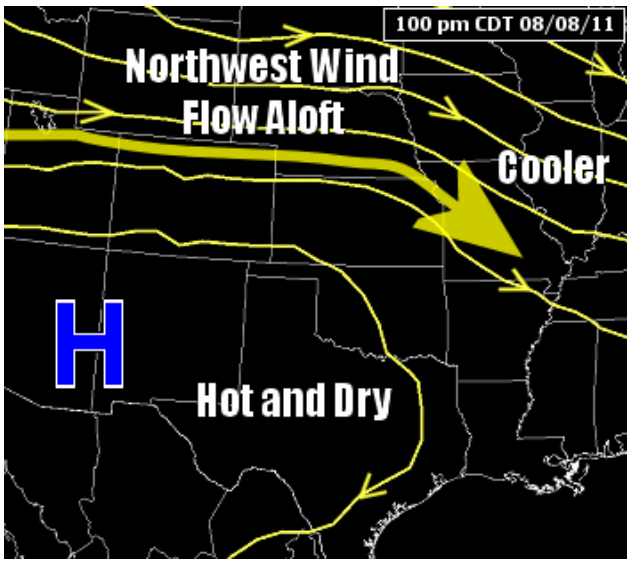

Figure 4 – High pressure ("H") relocated to the southwest United States by August 8, 2011. This led to cooler temperatures and better chances for rain in Arkansas.

The departure of the high lowered average temperatures (by 5 to 15 degrees) and increased rain amounts from the 9th through the 15th. A swath of two to more than five inches of rain dumped from Fayetteville (Washington County) and Harrison (Boone County) to Russellville (Pope County), Little Rock (Pulaski County), Pine Bluff (Jefferson County) and Monticello (Drew County).

Cooler/Wetter Trend in August, 2011

Site	Avg Temp (Aug 1-8)	Rain (Aug 1-8)	Avg Temp (Aug 9-15)	Rain (Aug 9-15)
Fayetteville (NW AR)	*90.9°*	*0.34"*	*76.0°*	*3.41"*
Harrison (NC AR)	*88.8°*	*1.24"*	*75.1°*	*1.69"*
Jonesboro (NE AR)	*88.0°*	*0.07"*	*80.1°*	*0.60"*
Fort Smith (WC AR)	*95.2°*	*0.54"*	*82.8°*	*2.77"*
Little Rock (C AR)	*92.7°*	*1.02"*	*79.6°*	*3.10"*
W Memphis (EC AR)	*87.4°*	*0.53"*	*79.4°*	*0.27"*
Texarkana (SW AR)	*94.7°*	*0.00"*	*87.4°*	*TRACE*
El Dorado (SC AR)	*91.4°*	*0.19"*	*85.4°*	*0.40"*
Pine Bluff (SE AR)	*91.6°*	*0.08"*	*79.6°*	*2.65"*

Much of this rain avoided drought stricken areas of the southwest. The eastern edge of departing high pressure was strong enough to keep rain to a minimum. The high kept temperatures up as well in the southwest, with only minor relief from the heat.

Soil Moisture/Hydrology

The recent rain in early August inflated streamflow across much of the region Figure 5). Only the south/west had lackluster water levels.

Soil moisture followed streamflow trends (Figure 6). Ground water was least available in the south/west, with empty stock ponds indicating a continuing drought.

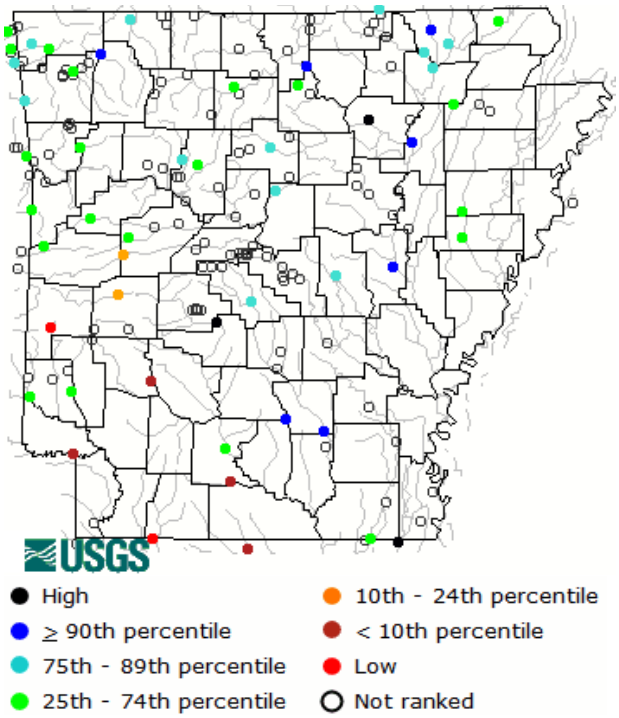

Figure 5 – At or below normal streamflow (the 25th to 74th percentile or less) was confined to southwest Arkansas on August 17, 2011 (source: USGS).

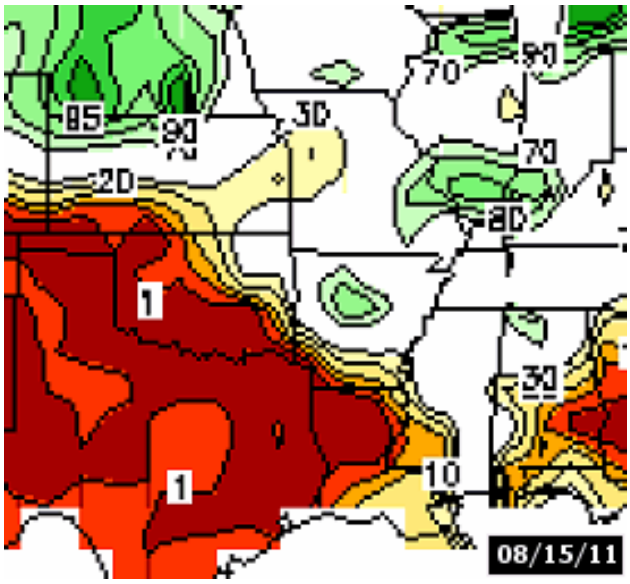

Figure 6 – Soil moisture was at or above normal in much of Arkansas except the southwest as of August 15, 2011. Values from 30 to 70 percent are considered normal.

A long period of subpar rain in the southwest and an ample supply of heat stressed vegetation, and plants dried out. This increased the wildfire concern (Figure 7).

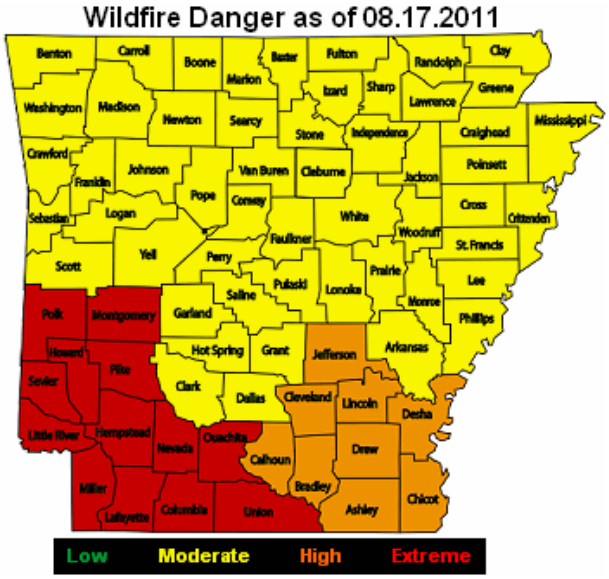

Figure 7 – An extreme fire danger was noted in southwest Arkansas on August 17, 2011 (source: Arkansas Forestry Commission).

There was an extreme fire danger in the southwest counties, and many of these counties were under burn bans as of August 17th.

Forecast

Looking ahead, the drought situation will depend heavily on where high pressure sets up in the coming weeks. While the high will likely hover over Arkansas at times, it may spend more time away from the state (mainly to the west). This will bring chances for showers and thunderstorms, with rain most likely in the northern and eastern counties.

Given this, drought conditions could persist across the south/west through much of the fall (Figure 8).

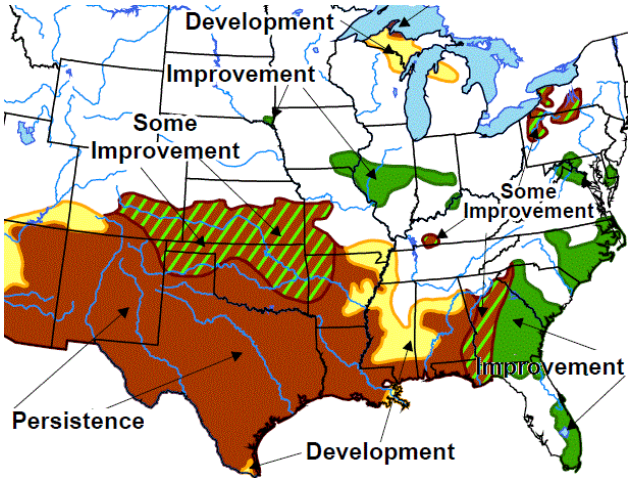

Figure 8 – The Drought Outlook through November, 2011 (source: Climate Prediction Center).

There is one thing to keep in mind. The outlook for the 2011 hurricane season calls for an active late summer and fall in the tropical Atlantic basin. There could be some drought relief if a tropical system tracks into the state from the Gulf of Mexico.

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Next Update: September 2, 2011